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July 24, 2019

VIA ELECTRONIC FILING

The Honorable Jocelyn G. Boyd
Chief Clerk / Administrator
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, SC 29210

Re: Letter Filing Inflow and Infiltration Report
Docket No. 2017-292-WS

Dear Ms. Boyd:

In the above-referenced docket, Blue Granite Water Company (the "Company") agreed to conduct an inflow and infiltration ("I&I") study for the sewer system serving certain properties owned by Dancing Dolphin, LLC—that is, properties located within Palmetto Estates in Beaufort, South Carolina—and to provide a report ("Report") to the Commission within one year of the date of the order.¹ The Commission, through Standing Hearing Officer Order No. 2019-64-H, granted the Company an extension to file the Report on or before July 29, 2019.

The Company contracted with Goodwyn, Mills & Cawood, Inc. ("GMC") to perform the engineering work necessary to complete this study and the resulting Report is attached hereto as Attachment A. According to the Report, GMC determined that the collection system is in satisfactory condition. However, the Report identifies certain deficiencies that, if corrected, can reduce I&I by an estimated 25 percent. The Company is moving forward immediately with correcting these deficiencies.

Should you have any questions or concerns related to the Report, please feel free to contact me.

Kind regards,

Sam Wellborn

SJW:tch

cc: Parties of Record (via email)
Catherine E. Heigel, President (via email)
Travis Dupree, Vice President, Project Management & Engineering (via email)
Robert M. Hunter, Financial Planning & Analysis Manager (via email)

¹ See Cartin Rebuttal Test. at 3 (filed Mar. 19, 2018); Order No. 2018-345(A) at 31 (May 30, 2018).

Sewer System Evaluation

PALMETTO ESTATES COLLECTION SYSTEM

Beaufort, South Carolina

for

Blue Granite Water Company

July 2019



Prepared By

GMC

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GMC PROJECT NUMBER: CGRE190034

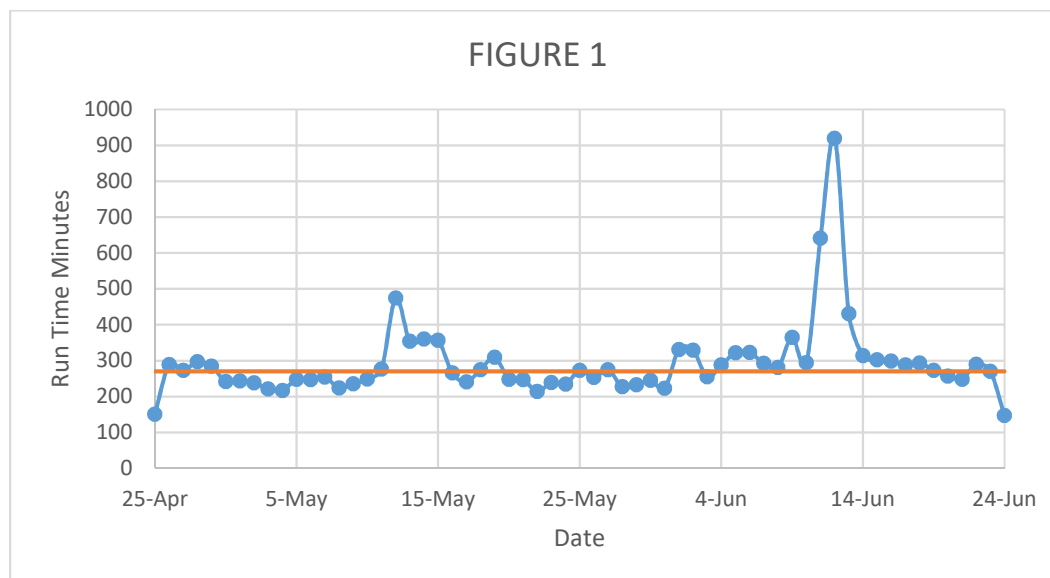
Attachment A

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SEWER SYSTEM CONDITION OVERVIEW

Blue Granite Water Company tasked GMC to provide professional engineering services to support field data collection efforts as well as analysis, identification, prioritization and design for rehabilitation projects for the Palmetto Estates wastewater collection system in Beaufort, South Carolina. The system includes 18 manholes, approximately 3,750LF of gravity sewer, and miscellaneous service lines. The collection system discharges into a lift station, SP04, that is owned, operated and maintained by Beaufort Jasper Water and Sewer Authority (BJWSA).

BJWSA provided pump run time data for the SP04 lift station. Based on the data provided, the lift station should operate for 275 minutes (4.6 hours) per day. During periods of peak flow, the lift station experience peaks of up to 3.4x. While there is a peaking factor associated with the system from inflow, it is also assumed that the baseline flow may be elevated due to influence from groundwater. The run time can be seen in Figure 1 below.



In the Spring of 2019, Stokes Plumbing cleaned and CCTV'd the 3,750 LF of gravity sewer line. GMC has since reviewed the video gathered of the collection system and made note of some issues that will need to be corrected.

1. The Bottom of the pipe is missing between two manholes.



2. Scaling of the pipe has occurred in the DIP sections of pipe. This occurs in two runs of pipe totaling approximately 60LF.



3. Protruding taps and incorrectly installed taps hinder maintenance and allow roots and infiltration into the system. This happened in one clay pipes between 2 man holes and involved at least three taps.



4. Displaced Joints. These were present in all clay pipe runs, with 3 joints having roots entering the system. There are 5 runs constructed of clay pipe totaling approximately 829LF of pipe.



GMC is currently compiling all of the data from the CCTV footage and will update the GIS map with material, diameter and lengths. Based on the initial review, the system is in satisfactory condition. As would be expected, deficiencies were identified, including one pipe without a bottom, scaling on 2 DIP lines, 3 protruding taps, and 10 offset pipe joints as identified above. Figures are attached that depict the repairs identified for the system. GMC believes that if the repairs identified in this document are completed that I&I can be reduced by 25%. Additional work to the system can be completed to further reduce I&I.



**Palmetto Estates Wastewater
Collection System Rehabilitation**
Project Number: CGRE190034

Legend

- MANHOLE
- SEWER SERVICE
- HAVE NOT RECEIVED
PIPE INFORMATION
- PIPES TO BE
REPLACED

NOTES
1. ALL CAST IRON PIPE TO BE DUG UP AND
REPLACED WITH PVC.
2. PIPE BETWEEN MANHOLES 20 AND 14 HAS
COLLAPSED AND NEEDS TO BE REPLACED

OVERALL SITE
PIPES TO BE REPLACED



0 115 230 460 690 920 Feet

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



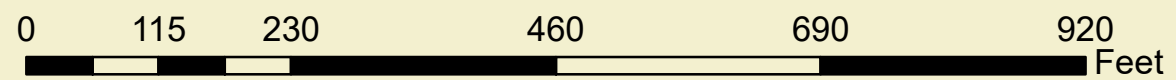
**Palmetto Estates Wastewater
Collection System Rehabilitation**
Project Number: CGRE190034

Legend

- MANHOLE
- SEWER SERVICE
- SEWER LINE
- PIPE TO BE LINED WITH CAST IN PLACE PIPE

NOTES

OVERALL SITE
CAST IN PLACE PIPE



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community